



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,523	03/26/2004	Kesahiro Koike	Q80755	7526
23373	7590	08/18/2006	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			VINH, LAN	
			ART UNIT	PAPER NUMBER
			1765	

DATE MAILED: 08/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/809,523

**Applicant(s)**

KOIKE, KESAHIRO

**Examiner**

Lan Vinh

**Art Unit**

1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>41406</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 4-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakagawa et al (US 5,494,721)

Nakagawa discloses a method for fabricating a substrate for a magnetic disc which comprises glass. The method comprises the steps of:

measuring the projections on the surface of the glass substrate (col 8, lines 45-50), which reads on measuring a convex/concave profile of a surface of the glass substrate for a mask blank

controlling the average height of the projection on the surface of the glass substrate and making comparison on minimum limit flying height (col 9, lines 6-11; lines 55-59) and the glass was then mechanically polished to a mirror-like surface and smoothed/flattened through planetary gear movement (col 13, lines 4-12) which reads on controlling a flatness of the surface of the glass substrate to a value not greater than a predetermined reference value determined depending upon a required flatness required to the glass substrate by specifying the degree of convexity of a convex portion present on the surface of the glass substrate with reference to a result of measurement obtained in the profile measuring step, executing an ion beam etching /local machining

Art Unit: 1765

to form projection /convex portion under a machining condition depending upon the degree of convexity (col 9, lines 25-30; col 14, lines 40-45)

subsequently, subjecting the disc/glass surface to a polishing step by placing the discs via spacer between two upper and lower plates while feeding a polishing liquid containing alumina powder (col 13, lines 4-11), which reads on subjecting the surface of the glass substrate to the local machining by the action of a machining liquid interposed between the surface of the glass substrate and a surface of a polishing tool without direct contact therebetween.

The limitations of claims 3-4 have been discussed above

Regarding claim 5, Nakagawa discloses that the average height of the projection/flatness value of the surface of the glass is 0.005-0,20 microns (col 9, lines 10-12)

Regarding claim 6, Nakagawa discloses forming a thin film 3 on the glass substrate (fig. 1)

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al (US 5,494,721) in view of Carr et al (US 5,761,790)

Art Unit: 1765

Nakagawa method has been described above. Unlike the instant claimed invention as per claim 2, Nakagawa fails to disclose carrying out the non-contact polishing by float polishing

Carr discloses a process for manufacturing a thin film comprises the step of polishing a wafer using float polishing (col 5, lines 35-40)

One skilled in the art at the time the invention was made would have found it obvious to modify Nakagawa non-contact polishing step by using float polishing as per Carr because Carr discloses that after float polishing, the substrate and insulator region preferably define smooth, nearly planar surface (col 3, lines 31-33)

5. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al (US 5,494,721) in view of Ohnuma (US 6,924,068))

Nakagawa method has been described above. Unlike the instant claimed invention as per claims 7-8, Nakagawa fails to disclose the step of patterning the thin film and transferring the thin film pattern of the transfer mask onto a semiconductor substrate by lithography

Ohnuma discloses a method for fabricating a photomask comprises the step of patterning the thin film and transferring the thin film pattern of the transfer mask onto a glass substrate by lithography (col 4, lines 53-60)

Since Nakagawa is concerned with etching the glass substrate, one skilled in the art at the time the invention was made would have found it obvious to modify Nakagawa method by patterning the thin film and transferring the thin film pattern of the transfer

Art Unit: 1765

mask onto a glass substrate by lithography as per Ohnuma because Ohnuma discloses that resist pattern formed by photolithography is utilized as a mask for processes such as etching base film (col 1, lines 16-20)

### ***Response to Arguments***

6. Applicant's arguments filed 6/29/2006 have been fully considered but they are not persuasive.

The applicants argue that as would be understood by one skilled in the art, the magnetic disc comprising glass as disclosed in Nakagawa et al is significantly different from the glass substrate for a mask blank, as expressly set forth in amended claim 1, in many respects, including technical field, manufacturing processes, structural requirements and performance goals. This argument is unpersuasive because it is noted that "for a mask blank" is a preamble that recites the use of a glass substrate and "A preamble that recite the use or purpose of the claimed invention generally does not limit the claims. Catalina, 62 USPQ2d at 1785". Thus, a glass substrate as disclosed in Nakagawa (col 5, lines 20-22), for the purpose of examination, is not different from the claimed "a glass substrate "

The applicants argue that since Nakagawa et al discloses that the projections of an appropriate particle size are intentionally or puposefully formed on the surface of the magnetic disc substrate in order to avoid the sticking of a magnetic head to the magnetic disc, Nakagawa et al is not at all concerned with achieving a greater flatness of the surface of the glass substrate whereas the present invention achieves high

Art Unit: 1765

flatness of the surface by the control step of amended claim 1. This argument is unpersuasive for two reasons: it is not commensurate in scope with claim 1 since claim 1 does not recite "high flatness of the surface" and while it is true that Nakagawa et al discloses that the projections of an appropriate particle size are intentionally or purposefully formed on the surface of the magnetic disc substrate in order to avoid the sticking of a magnetic head to the magnetic disc, it is also true that Nakagawa also discloses that glass substrate was polished to a mirror-like surface and the glass disc was uniformly machined and smoothened through planetary gear movement (col 13, lines 4-14), which implies that Nakagawa et al is concerned with achieving a greater flatness of the surface of the glass substrate

**7. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Art Unit: 1765

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lan Vinh whose telephone number is 571 272 1471. The examiner can normally be reached on M-F 8:30-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571 272 1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.



LV

August 16, 2006